

A new species of *Palaemonella* (Crustacea: Decapoda: Pontoniinae) from East Africa

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ABSTRACT

A new species of pontoniine shrimp, *Palaemonella maziwi* sp. nov., from East Africa, is designated, having been previously misidentified with *P. spinulata* Yokoya, 1936. Further morphological details are noted and illustrated. Literature records of *Palaemonella spinulata* from the western Indian Ocean are erroneous.

KEYWORDS: *Palaemonella maziwi* sp. nov., Crustacea, Decapoda, Palaemonidae, Pontoniinae, Tanganyika, Kenya.

INTRODUCTION

The recent study of some shrimp specimens from Western Australia, identified as *Palaemonella spinulata* Yokoya, 1936, led to the re-examination of some East African specimens previously reported under this name. The Australian specimens are clearly not conspecific. The East African specimens present a number of small but distinctive characters that distinguish them from the Western Australian specimens, which agree closely with Yokoya's original description and illustrations. The East African specimens are here given a new species name. The major features of the new species are noted and illustrated in Bruce (1975). There are now no confirmed records of *Palaemonella spinulata* Yokoya from the western Indian Ocean.

Abbreviations used: CL, post-orbital carapace length. NTM, Northern Territory Museum, Darwin. RMNH, Nationaal Natuurhistorisch Museum, Leiden.

SYSTEMATICS

Palaemonella maziwi sp. nov.

(Fig. 1A–H)

Palaemonella spinulata - Bruce, 1975: 177–183, figs 6–7. - Bruce, 1978: 209, fig. 1. Not *Palaemonella spinulata* Yokoya, 1936: 135–136, fig. 4.

Material examined. HOLOTYPE - ♂, Maziwi Island, Pangani, Tanganyika, stn AJB-97, 5° 30.6' S, 39° 04.06'E, #1297, 2 m, reef edge, coll. A.J. Bruce, 12 December 1970, NTM Cr.013369. PARATYPES - 1♂, 1 ovigerous ♀, Ras Iwatine, Bamburi, Mombasa, Kenya, stn AJB-101, 4°00.75'S, 39° 00.43'E, #1357, 0.5–1.0 m, lagoon, coll. A.J. Bruce, 13 January 1971, NTM Cr.013370; 1♀, Fort Jesus, Mombasa, Kenya,

stn AJB-205, #2185, coll. J. Wood, scuba, 10 m, 21 August 1974, RMNH D.50023.

Diagnosis. A small shrimp; rostrum short, reaching to about middle of intermediate segment of antennular peduncle, much shorter than scaphocerite, 0.85 of CL, dentition 1+5–6/1–2; supraorbital ridges absent, spines present, large; hepatic spine small, inferior orbital angle feebly produced; fourth and fifth pleura posteroventrally blunt and acute respectively; mandible with 1-segmented palp; fourth thoracic sternite with slender median process; second pereopods with carpus with large slender acute terminal distolateral tooth, merus with well developed distoventral tooth, ischium unarmed; ambulatory pereopods with dactyls short, about 0.53 of propod length, ventrally biconcave; propod with long distoventral spines, numerous similar ventral spines; male second pleopod with endopod reduced, not exceeding appendix interna.

Description. The principal features of *P. maziwi* sp. nov. are noted and illustrated in Bruce (1978). These may be augmented by the following notes on the holotype specimen. The antennal peduncle presents no special feature: the fused portion of the upper rami consists of 6 segments, the shorter free ramus of a single segment, with 6 groups of aesthetascs; lower flagellum short, with about 8 segments only. The scaphocerite (Fig. 1A) is about 4 times longer than its greatest width, at about 0.3 of its length, tapering strongly distally, lateral margin concave, with well developed distal tooth far exceeding lamella. Cornea globular, diameter about 0.3 of CL, without dark transverse bars. Second maxilliped with small subrectangular epipod, with minute tubercular podobranch vestige. Third maxilliped normal, with subcircular lateral plate, without discernible arthrobranch. First pereopod (Fig. 1B)

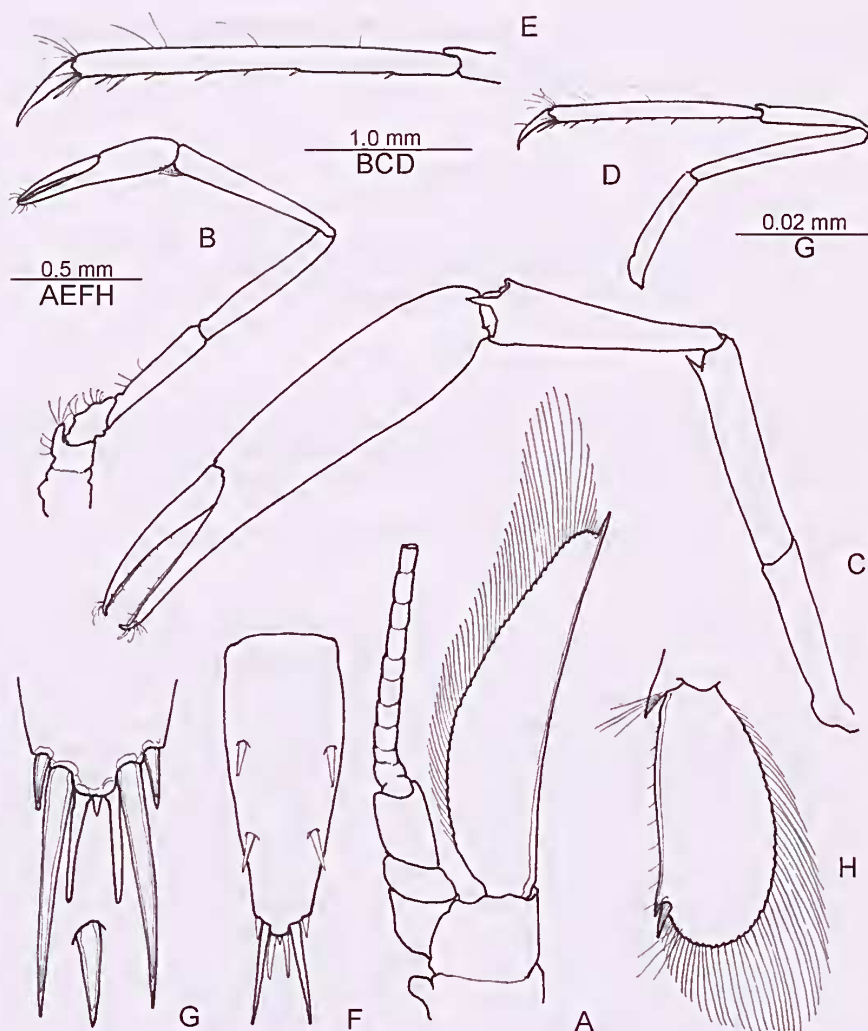


Fig. 1. *Palaemonella maziwi* sp. nov. male, holotype, Maziwi Island, Kenya, NTM Cr.013369. A, scaphocerite; B, first pereiopod; C, right second pereiopod, dorsal aspect; D, third pereiopod; E, same, propod and dactyl; F, telson; G, posterior telson spines, dorsal spine inset; H, uropod, exopod.

slender, fingers about 1.2 times palm length, slender, with minute hooked tips, cutting edges entire; carpus slightly longer than chela, also slightly longer than merus, ischium 0.75 of carpus length, coxa with small ventral process. Second pereiopod (Fig. 1C) as previously described, chela about 1.8 of CL, fingers 0.6 of palm length, palm 3.2 times longer than greatest width, carpus 0.72 of palm length, subequal to meral length, 1.16 times ischial length. Third pereiopod (Fig. 1D) slender, dactylus as previously described, about 0.23 of propod length, propod (Fig. 1E) about 16 times longer than width, 0.75 of CL, with long distoventral spine, about 0.4 of dactyl length, 7 shorter ventral spines of reducing size proximally. Fourth pleuron bluntly subrectangular, fifth slightly produced, acute.

Telson (Fig. 1F) 2.5 times longer than basal width, with 2 pairs of large dorsal spines at about 0.33 and 0.66 of length, spines about 0.14 of telson length, posterior margin angular with small acute median process, lateral spines about half length of dorsal spines, intermediate spines 0.33 of telson length, twice length of subventral non-sctulose submedian spines (Fig. 1G). Uropod with protopod posterolaterally acute, sctose; exopod (Fig. 1H) broad, 2.3 times longer than width, lateral margin with robust distal spine, about 0.14 of exopod length, similar to dorsal telson spines, with large acute tooth proximally.

Measurements (mm). Holotype male: CL, 1.6 ; carapace and rostrum, 2.9; total body length, approx., 7.4; second pereiopod chela, 3.0.

Etymology. Named after the locality of capture of the holotype, Maziwi Island, Tanganyika, an island which no longer exists. Etymology unknown, used as a noun in apposition.

Systematic position. Only three species of *Palaemonella* from the Indo-west Pacific region are known to have distinct supraorbital spines; *P. crosnieri* Bruce, 1978, *P. spinulata* and *P. maziwi* sp. nov.. *Palaemonella crosnieri* is immediately distinguished from all other species of the genus by the presence on the ischium of the second pereopods of a well developed distoventral tooth.

Palaemonella maziwi sp. nov. may be distinguished from *P. spinulata* Yokoya, the most closely related species with which it was previously confused, by the following characters:

- (1) smaller size, CL to 2.2 mm;
- (2) rostrum not reaching to proximal end of distal segment of antennular peduncle;
- (3) dentition 1 + 5–6/1–2;
- (4) supraorbital spine large, hepatic spine small;
- (5) inferior orbital angle not produced;
- (6) mandibular palp single segmented;
- (7) second pereopod carpus with long slender acute distolateral tooth;
- (8) ambulatory dactyl ventrally biconcave;
- (9) male second pleopod with endopod reduced, not exceeding appendix interna.

Remarks. The specimens referred to *Palaemonella spinulata* Yokoya by Bruce (1975), from Tanganyika and Kenya, are now not considered to belong to that species and are here described as a new species. The type material of *P. spinulata* Yokoya has long been considered as lost (Bruce 1970). The genus *Palaemonella* Dana has been recently reviewed (Bruce 2002) and the information on *P. spinulata* should be revised in the light of the above findings. The species is not now known with certainty to occur in the western Indian Ocean but has been reported from northern Australian waters, Western Australia, Northern Territory and Queensland (Davie 2002; Bruce 2002); Hainan Island, China (Li 2001), and Agrihan Island, Marianas Islands (Hayashi *et al.* 1994), as well as the type locality, Misaki, Japan.

The male holotype from Maziwi Island had a small single segmented mandibular palp showing feeble signs of subdivision into two segments.

The specimens of *Palaemonella spinulata* reported from 40 metres depth on Reunion (Bruce 1978) may also belong to *P. maziwi* sp. nov. but are not available for re-examination. The juvenile, CL 1.0; rostral dentition 4/0, has a particularly large supraorbital spine and lacks an hepatic spine.

Distribution. Known only from the type locality, Maziwi (Island) reef, Tanzania, and Ras Iwatine and Fort Jesus, Kenya (Bruce 1975). The mention of a specimen from Kisiti Island, Kenya, in Bruce (1978: 209) is erroneous.

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